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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,718	04/13/2004	Bradley Charles Jones	P24330	2868

7055 7590 01/24/2007

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EXAMINER	
KASZTEJNA, MATTHEW JOHN	
ART UNIT	PAPER NUMBER
3739	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/24/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/24/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary	Application No.	Applicant(s)	
	10/822,718	JONES ET AL.	
	Examiner	Art Unit	
	Matthew J. Kasztejna	3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-28 and 30-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-28 and 30-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 November 2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 3, 2006 has been entered.

Notice of Amendment

In response to the amendment filed on September 6, 2006, amended claims 11, 28 and 33 and new claim 34 are acknowledged. All current rejections of the claims are *withdrawn*. The following new grounds of rejection are set forth:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-12, 15-28, 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5.531.664 to Adachi et al.

In regards to claims 1, 20-21, 28 and 33, Adachi et al. disclose a position control apparatus for controlling position along a depth or z axis, comprising: an extensible member 177 that can be extended and contracted along the depth or z-axis,

comprising shape memory alloy configured and positioned to expand and contract linearly along the depth or z-axis; a housing 170 for the extensible member and for at least one optical element 174 located forward of the extensible member, the housing constraining the optical element to move linearly along the depth or z-axis; wherein the extensible member has a forward end coupled to the optical element and a rearward end coupled to the housing at a point rearwards of the optical element so that extension and contraction of the extensible member causes the optical element to advance or retreat linearly within the housing along the depth or z-axis (see Fig. 33). Furthermore, Adachi et al. disclose an optical fiber 171 for providing illuminating light; a light condenser for focusing the illuminating light to an observational field (see Fig. 33). The apparatus of Takehana et al. is considered inherently capable of performing the recited method claims. Adachi et al. is silent with respect to a heater for controlling the temperature of the shape memory alloy and a feedback mechanism for controlling the heating means and responsive to variations in the position; wherein the position is controllable by heater and the position can be stabilized. However, Adachi et al. teaches that by supplying the electric power via lead wires (not shown) to the SMA wire 177 for heating to contract the same at any time, the object lens 174 is moved in the predetermined direction to effect the focusing operation as desired (see Col. 20, Lines 3-20). Furthermore, the SMA wire 177 has the same structure as the SMA wire 36 shown in Figure 7. Adachi et al. teaches the use of a heater for controlling the temperature of the shape memory alloy and a feedback mechanism for controlling the heating means and responsive to variations in the position; wherein the position is

controllable by heater and the position can be stabilized (see Fig. 6 and Col. 8, Line 60 – Col. 9, Line 67). Thus, Adachi et al. teaches an apparatus and method for controlling SMA wires and demonstrates that it would have been obvious to one skilled in the art at the time the invention was made to use a heater and a feedback mechanism to control the SMA wire to provide complete and precise control over the focusing mechanism consisting of the SMA wire as taught by Adachi et al.

In regards to claims 3-5 and 30-32, Adachi et al. disclose a position control apparatus, further comprising a biaser for opposing either the expansion or contraction of said shape memory alloy, wherein the biaser is opposed to the contraction of said shape memory alloy and is a spring 178 (see Fig. 33).

In regards to claim 6, Adachi et al. disclose a position control apparatus, wherein the feedback mechanism comprises a feedback sensor for sensing the position of the apparatus and providing an output directed to the heater to modify the heat applied to the shape memory alloy (see Figs. 6 and 12).

In regards to claim 7, Adachi et al. disclose a position control apparatus, wherein the feedback mechanism comprises a plurality of feedback sensors (see Fig. 12).

In regards to claim 8, Adachi et al. disclose a position control apparatus, wherein the heater comprises a source of electrical current for heating the shape memory alloy (see Col. 8, Lines 60-65).

In regards to claims 9-11, Adachi et al. disclose a position control apparatus, wherein the source of electrical current is arranged to heat the shape memory alloy by

passing the electrical current through the shape memory alloy and wherein the electrical current is a pulse width modulated current (see Col. 8, Line 60 – Col. 9, Line 67).

In regards to claim 12, Adachi et al. disclose a position control apparatus, wherein the feedback mechanism comprises a variable resistance sensor 189 (see Fig. 12).

In regards to claims 15-16, Adachi et al. disclose a position control apparatus, further comprising an elongate member for securing the shape memory alloy to the apparatus, wherein the elongate member is longitudinally substantially rigid and laterally flexible (see Fig. 33).

In regards to claims 17 and 23, Adachi et al. disclose a position control apparatus, wherein the extensible member is one of a plurality (see Fig. 7).

In regards to claim 18, Adachi et al. disclose a position control apparatus, further comprising a flexible printed circuit board arranged between and attached to two portions of the apparatus whose separation varies as the position is varied, to flex as the separation varies (see Figs. 6, 12 and 40).

In regards to claim 19, Adachi et al. disclose a position control apparatus, further comprising a home adjustment mechanism for setting a desired home position in the direction of the axis, such that subsequent adjustment of the position is relative to the home position (see Col. 20, Lines 10-14).

In regards to claims 22 and 34, Adachi et al. disclose a position control apparatus, wherein the endoscope includes an x-y scan mechanism incorporating the

exit aperture, wherein the x-y scan mechanism is adjustable in position by means of the position control apparatus (see Figs. 2-6).

In regards to claims 24-27, Adachi et al. disclose a position control apparatus for use with an endoscope which is capable of being any one of a confocal endoscope, endomicroscope, microscope or colonscope as it is well known in the art.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5.531.664 to Adachi et al. in view of International Publication No. WO 00/75712 to Harris et al.

In regards to claim 13, Adachi et al. disclose a position control apparatus for controlling position along an axis and a feedback mechanism but are silent with respect to wherein a capacitive sensor comprising a double wire coil capacitive sensor, wherein the separation of the coils of the double wire coil capacitive sensor varies according to the position of the apparatus thereby varying the output of the sensor. Harris et al. teach of an analogous medical apparatus wherein a series of capacitive sensors may be used for obtaining a feedback signal for the drive circuit. As a tune moves the pick-up signal is modulated, and the detected signal is amplified to provide the drive current to the coil. It would have been obvious to one skilled in the art at the time the invention was made to use a capacitive sensor in the apparatus of Adachi et al. to allow for a more practical method for obtaining feedback from the drive mechanism as taught by Harris et al.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5.531.664 to Adachi et al. in view of U.S. Patent No. 4,450,937 to Asars.

In regards to claim 14, Adachi et al. disclose a position control apparatus for controlling position along an axis and a feedback mechanism but are silent with respect to wherein the feedback mechanism comprises an optical sensor comprising a pulsed red Light Emitting Diode and a Phase Locked Amplifying detecting diode. Asars teaches of electronic circuitry with self-calibrating feedback for use with an optical current sensor having both a pulsed light emitting diode and a phase locked amplifying detecting diode (see Fig. 2). It would have been obvious to one skilled in the art at the time the invention was made to use an optical sensor in the apparatus of Adachi et al. to ensure the feedback signal has a large dynamic range as well as excellent temporal and thermal stability to meet the requirements for most metering, protection, and control applications as taught by Asars.

Response to Arguments

Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Kasztejna whose telephone number is (571) 272-6086. The examiner can normally be reached on Mon-Fri, 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John P. Laubscher
Primary Examiner

MJK

1/16/07